

REMARKS

This application has been carefully reviewed in light of the Office Action dated January 29, 2009. Claims 1, 3, 6 to 13, 16 and 18 to 24 are currently in the application, with claims 2, 4, 5, 14, 15 and 17 having been cancelled without prejudice or disclaimer of the subject matter contained therein and new claims 20 to 24 having been added herein. Claims 1, 12, 18 and 19 are the independent claims. Reconsideration and further examination are respectfully requested.

Support for new claims 20 and 21 may be found at least on page 22 of the specification. Support for new claims 22 and 23 may be found at least in original claims 8 and 9. Support for new claim 24 may be found at least in original claim 16. No new matter is believed to have been added to the application by way of this Amendment.

Claims 1, 2, 6 to 13 and 16 to 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by International Publication No. WO 00/75643 ("Banks"). Claims 2 to 4 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Banks in view of Japanese Publication No. 2000-297704 ("Shibata"). Claims 5 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Banks in view of U.S. Patent Application Publication No. 2003/0164163 ("Lei"). Applicants have reviewed the applied references and respectfully submit that the claimed invention is patentably distinguishable over these references for at least the following reasons.

As shown above, each of independent claims 1, 12, 18 and 19 have been amended to include additional details on the detection of abnormalities by the engine exhaust emission control device. Specifically, the claims have been amended to include the features of detecting abnormalities in an exhaust gas recirculation device or a supercharger arranged in an engine. With respect to the exhaust gas emission control device, an abnormality is detected when the detected voltage of a command signal output to the exhaust gas recirculation device is greater than a predetermined value. For the supercharger, an abnormality is detected when the detected pressure of intake air compressed by the supercharger deviates from a predetermined range. When either of these abnormalities is detected, an addition device control signal is output to an addition device controller to vary the amount of reducing agent added by the addition device to exhaust gas from the engine. Support for the amendments may be found throughout the originally filed application including, for example, in claims 2, 4, 5, 14 and 15, and in Figures 4 to 6, together with the corresponding description in the specification.

The applied references are not seen to disclose or suggest the foregoing features found in the independent claims. In particular, the applied references are not seen to disclose or suggest at least the features of varying the amount of a reducing agent added to the exhaust of an engine in response to detecting an abnormality in an exhaust gas recirculation device or a supercharger arranged in the engine, where an abnormality is detected when the detected voltage of a command signal output to the exhaust gas recirculation device is greater than a predetermined value or when the detected pressure of intake air compressed by the supercharger deviates from a predetermined range.

Banks concerns a selective catalytic reduction system. However, as conceded in the Office Action, Banks does not disclose or suggest at least the features of detecting abnormalities in an exhaust gas recirculation device or in a supercharger arranged in an engine. Correspondingly, Banks is not seen to disclose or suggest detecting abnormalities in these devices based on the detected voltage of a command signal or the detected pressure of intake air. To remedy the deficiencies of Banks, the Office Action applied Shibata for its discussion of an exhaust gas recirculation device and Lei for its discussion of a turbocharger. Applicants respectfully submit that none of these references, either alone or in combination, disclose or suggest all of the features of the independent claims.

Shibata concerns an exhaust emission control device for an internal combustion engine. Shibata describes an exhaust gas recirculation pipe 4 that connects an exhaust passage 3 and an air intake passage 2. Flow through the exhaust gas recirculation pipe 4 is controlled with an exhaust gas recirculation valve 5 driving by a valve actuator 9. Shibata is seen to describe controlling the exhaust gas recirculation valve 5 based on deviations in the NO_x present in the exhaust. However, Shibata is not seen to disclose or suggest detecting an abnormality in any of the exhaust gas recirculation pipe 4, the exhaust gas recirculation pipe 5 or the exhaust gas recirculation valve actuator 9. More particularly, Shibata is not seen to disclose or suggest detecting an abnormality in an exhaust gas recirculation device when a detected voltage of a command signal output to the exhaust gas recirculation device is greater than a predetermined value.

Lei concerns an apparatus for flexibly regulating internal combustion engine valve flow. Paragraph [0035] in Lei describes the effects of a turbocharger on NO_x emission of an engine. However, Lei does not disclose or suggest detecting an abnormality in the turbocharger. More

particular, Let is not seen to disclose or suggest detecting an abnormality in a supercharger when a detected pressure of intake air compressed by the supercharger deviates from a predetermined range.

Therefore, independent claims 1, 12, 18 and 19 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 102(b) rejection of claims 1, 12, 18 and 19 are respectfully requested.

The other claims in the application are dependent from the independent claims discussed above and therefore are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502203 and please credit any excess fees to such deposit account.

Respectfully submitted,

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